The Angiographic Diagnosis of Gastrointestinal Bleeding

Diagnosis of the site of gastrointestinal hemorrhage is often difficult. The usefulness of selective arteriography in locating the source of gastrointestinal bleeding has been demonstrated. Bleeding as slow as 0.5 ml per minute has been localized in experimental animals. Selective angiography is particularly useful in determining bleeding sites in sections of the gastrointestinal tract which are difficult to endoscope—the small intestines and colon. In 27 patients with acute rectal hemorrhage and noncontributory sigmoidoscopy, selective angiography demonstrated a bleeding point in 18. In 13 patients, the hemorrhage was secondary to diverticulosis and in 12 of the 13 the bleeding was located to the right of the splenic flexure. Precise localization of the offending diverticulum allowed the surgeon to perform segmental colon resection. Selective arteriography is often the only effective way of diagnosing the source of chronic colonic and small intestinal bleeding caused by arterial-venous malformations. In one study three-quarters of the patients had a laparotomy which failed to reveal A-V malformations that were subsequently viewed when selective angiography was used. Bleeding from the second and third parts of the duodenum is difficult to localize by endoscopy and barium roentgenography, but bleeding stress ulcers in the mid-distal duodenum may be readily localized angiographically.

The value of selective catheterization in the bleeding patient with varices is two-fold. Angiography may demonstrate a nonvaricocele source of hemorrhage, such as an ulcer. If no source of arterial hemorrhage is found, and portal hypertension with collateral varicocele channels is demonstrated, selective vasopressin infusion through the arterial catheter will often control the active varicocele hemorrhage.

GEORGE S. HARELL, M.D.
RONALD A. CASTELLINO, M.D.

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